DOCUMENT RESUME

ED 286 178 CS 210 692

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TITLE Online Databases and Newspapers: An Assessment of Utilization and Attitudes.
PUB DATE Aug 87
NOTE 18p.; Paper presented at the Annual Meeting of the Association for Education in Journalism and Mass Communication (70th, San Antonio, TX, August 1-4, 1987).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Computer Networks; *Computers; Database Producers; *Databases; Information Needs; *Information Seeking; Information Sources; Media Research; *Newspapers; Online Systems; Online Vendors; Press Opinion; Technological Advancement
IDENTIFIERS News Agencies; Newspaper Circulation; *News Sources

ABSTRACT

Forty-eight Michigan newspapers were surveyed by telephone to determine their criteria in selecting online database services, type of personnel using them, training procedures, budgets, and perceptions of the impact of these services on the speed of writing stories and quality of reporting. Data collection involved two phases: (1) researchers surveyed Michigan daily newspapers about their use of electronic databases and microcomputers; and (2) examining U.S. and Canadian dailies that are online contributors to VU/TEXT, DATATIMES or NEXIS. Results show that 96% do not subscribe to any online services, with a majority indicating that the services were too expensive, 50% saying they had no need for them, and 15% reporting lack of the expertise to use the services. More than half viewed online search skills as not very important. The two papers that did subscribe were the "Detroit Free Press" and the "Detroit News." The "Free Press" also maintains its own computerized "morgue," or archive, which is integrated with ongoing stories and is provided to the VU/TEXT database. Only three other Michigan newspapers operate micro-computer based "morgues." The survey also revealed that while 25% of Michigan newspapers have no personal computers of any kind, the rest have most or all of the equipment needed to access online databases should they choose to. Michigan newspapers' apparent lack of interest in online databases contrasts starkly with the growing national interest, reflected in the range of national newspapers contributing to online databases. (Appended tables compare penetration of IBM PC's, MacIntoshes and laptop computers, correlate computer use with newspaper characteristics, and analyze database contributors by city size and circulation.) (JG)

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Online Databases and Newspapers:
An Assessment of Utilization and Attitudes

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Paper presented to the Newspaper Division of AEJMC, August, 1987.

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INTRODUCTION

For reporters, gathering information requires skills that go well beyond interviewing techniques. They must know how and where to seek information for an interview and how and where to verify information gathered during the interview. While most reporters rely on their newspapers' library--the morgue--for this process, those libraries can be inadequate, especially in providing resource material on the most recent events and issues. Computerized databases, which are at the center of the new information technology for journalists, enable a reporter to access the most recent information available for a story--without leaving the newsroom.

Using a computer, a modem and a telephone, a reporter can retrieve information stored in computers from almost anywhere in the country at anytime. Information available over online services range from specialized topics, such as medicine, to the complete morgue of another newspaper, such as the *New York Times*. Thus, within minutes, reporters can search for a specific fact to fill in a gap in a story, or background themselves on a special topic. By narrowing in on a key word or group of words that represent the major concept the reporter seeks from a selected database, the reporter can read the information on the computer screen, and, if necessary, save the information for future use in a format which may be directly compatible with the newspaper's front end system.

Databases, or electronic sources, contain either the complete text of the information sought, such as the legal service, NEXIS, or bibliographic references to and a summary of a complete text, such as Social SCISEARCH. The former, of course, instantly provides the reporter with the information sought and allows the reporter to print out the article. The latter, on the other hand, directs the reporter to sources, such as magazines or conference papers, and therefore requires a library search for the material cited. Because the user is charged for time spent on-line, searches in bibliographic databases are less costly than full-text services.

Current estimates put the number of electronic databases at more than 1,300. (1) The sheer number of services, variations in access modes and conventions across services as well as high costs for connect time necessitate considerable expertise in using the database services.

LITERATURE REVIEW

A search of the literature produced sparse information on newspaper uses of electronic databases associated with the editorial product. A 1983 study by Ullmann found use of electronic databases not widespread. Twenty of 54 newspapers responding to a questionnaire sent to 97 newspapers with circulation larger than 100,000 subscribed to at

least one database. Ten of the 20 subscribed to three or more databases. User reaction to the databases was uniformly favorable, with most responses indicating satisfaction with enhanced research capabilities of the newspapers' library. (2)

McDonald found that business writers at large newspapers were the most likely of all reporters to access databases (3), while Endres found general assignment reporters to be the most frequent users (4). The later study also supported the Ullmann position that on-line databases services can improve the quality of the editorial content of newspapers by providing greater and more efficient information retrieval than traditional methods. Kerr and Niebaurer, however, discovered that among a sample of 40 editorial writers at 27 newspapers, 67.5 percent said they rarely if ever used electronic information retrieval systems. (5) The writers cited three factors that minimized use of these systems: no recognizable benefits of electronic searches over manual searches; cumbersome accessing procedures for electronic retrieval; and inadequate training in electronic search procedures.

How newsrooms use this new reporting tool is of increasing interest to scholars and editors, who direct the news gathering processes in the news organization. This study seeks to add to literature of how newspapers are adapting to the explosion of information technology to improve the news product. Specifically, the present study explores all daily newspapers in Michigan to determine which papers subscribe to electronic databases; why newspapers do not subscribe to online databases; and if editors at newspapers currently not using databases expect to subscribe to any electronic database in the future. Because online database searches require a microcomputer, this study also seeks to determine the penetration and uses of microcomputers in Michigan daily newspapers. Even if a newspaper is not currently using online services, the presence of a microcomputer in the newsroom will enable access, when the newspaper elects to make use of such services. This is the first study of the uses of online databases by small and medium sized daily newspapers.

One manifestation of online databases in the newspaper industry is the emergence of national services which compile electronic morgues from a variety of newspapers, making the content available to other newspapers and businesses. Thus, newspapers are faced with at least two choices regarding online databases: whether to subscribe to any and whether to contribute their newspaper content to an online service.

There are three leading full-text database services which predominate in the newspaper industry. VU/TEXT is an electronic information service operated by Knight-Ridder company that features the full-text of stories appearing in 34 newspapers; DATATIMES is a subsidiary of the Oklahoma Publishing Company, which carries the full-text of 33 newspapers and has just signed an agreement to automate the Gannett newspapers; and NEXIS is Mead Data Central's collection of databases that include the

full-text of more than 125 newspapers, magazines, newsletters, wire services, and broadcast scripts.

This study attempts to identify common characteristics of newspapers that are currently contributing content to national online databases, to further explore factors which differentiate newspapers which make use of electronic database opportunities from those which do not.

Methods

In the first of two phases of data collection, researchers surveyed Michigan daily newspapers about their use of electronic databases and microcomputers. The second phase involved examining U.S. and Canada dailies that are online contributors to VU/TEXT, DATATIMES or NEXIS.

A preliminary survey was conducted to determine electronic database use. Questionnaires were mailed in two waves to all 51 daily newspapers in Michigan. The mailing took place in December 1986. The preliminary survey included questions about circulation, number of editors and reporters, use of syndicates and wire services, computerized morgues and the employment of a full- or part-time librarian, as well as questions about subscription to electronic databases, the importance of such databases, and reasons for choosing to use them or not to use them. Thirty three of the 51 papers responded by mail by early February 1987.

In January 1987 the preliminary questionnaire was embedded in a follow-up survey that added questions about computer use. Penetration and uses of portable computers, Macintoshes, IBM and IBM-compatible PCs and desktop modems were assessed. One member of the research team then interviewed representatives of the Michigan dailies by telephone. Dailies that had not replied by mail responded to the complete instrument, made up of the preliminary and follow-up questionnaires, in one phone interview. Those that had replied by mail answered only the follow-up questions about computer use. Two dailies could not be reached and one paper declined the interview. Thus, out of 51 Michigan dailies, data were collected for 48.

Final telephone or personal interviews were conducted with three small dailies that indicated use of a computerized morgue.

The second phase of the study involved collection of descriptive data about newspapers in the U.S. and Canada that provide content to one of three online databases: VU/TEXT, DATATIMES or NEXIS.

The three database companies provided researchers with lists of U.S. and Canada daily newspapers that were online contributors in June, 1987.

Using the 1985 Editor and Publisher Yearbook, the following information was collected

about each online paper: Circulation; time of publication; city size; group or non-group ownership; and number of competing dailies. Fifty online papers in the U.S. and Canada were evaluated.

The total number of contributing U.S. and Canada dailies contributing is 61.(6) Four of the online papers were not found in Editor and Publisher, and one was a college paper, also unlisted in Editor and Publisher. The *Washington Post* contributes to all three databases, and the *Los Angeles Times* contributes to two (NEXIS and VU/TEXT).

Results

Online Database Use by Michigan Newspapers

This project began as an attempt to characterize the use of online databases by Michigan newspapers. The initial survey included numerous questions about criteria newspapers used in selecting particular online services, which newspaper personnel (librarians, reporters, editors) used online services, training procedures, budget for online services, perceptions of the impact of online services on speed of writing stories and quality of reporting, verification procedures, etc.

What we were not prepared for was the extreme extent to which Michigan newspapers do not use online databases. Forty-six of 48 newspapers surveyed (96%) do not subscribe to any online services. It was unfortunate that our first question was not "Do you know what an online database is?" rather than "Does your newspaper subscribe to an online database?" In telephone interviews, the interviewer was frequently asked to define the concept.

Among the 46 newspapers which do not subscribe to online services, 74% indicated that the services were too expensive, 50% said they had no need for them and 15% lacked the expertise to use the services. Skills in searching online databases were considered very important by 6% of Michigan newspapers, important by 34% and not very important by 60%.

The two Michigan newspapers which do subscribe to one or more online services are the *Detroit Free Press* and the *Detroit News* , by far the largest papers in the state. At the time of this survey, the *Free Press* is far more oriented to online services than the *Detroit News* . The *Free Press* subscribes to VU/TEXT, NEXIS, DATATIMES and MIPIE (Michigan Products Information Exchange). The paper also operates a fully computerized online morgue, which is interfaced with the front end system for instant access to stories by reporters and editors. Past stories can be called up from the morgue and stored on the VDT system, to be integrated directly with ongoing stories. Thus, the *Free Press* 's own computerized morgue is the primary "online" service, used many times a day by reporters, editors and librarians. The *Free Press* also provides their computerized morgue to VU/TEXT, contributing content as well as subscribing. Access to online services beyond its

own morgue is handled by librarians. The annual online services budget is $40,000. Use of online databases is believed to save reporters time and to improve the overall quality of reporting, permitting more complete, up-to-date information, quickly retrieved.

The *Detroit News* subscribes only to NEXIS. Reporters, editors and librarians all access NEXIS directly, on the average several times a week. The *News* does not have a computerized morgue. The online budget is approximately $6,000/year. Use of online database services is believed to save reporters time but not to improve the overall quality of reporting.

In addition to the *Detroit Free Press* , two small and one medium-sized Michigan newspapers operate some form of computerized morgues. The *Marshall Chronicle* (daily circulation 2,000) and the *Albion Recorder* (daily circulation 3,500) are owned by the Bedient family. Publisher John Bedient designed a Macintosh-based morgue to store and access stories. Stories are stored in folders, labled by major category, on a Mac Plus. Searching the folders yields relevant stories filed by headline. The system was initiated at the *Albion Recorder* in October, 1986 and at the *Marshall Chronicle* in December, 1986.

The *Oakland Press* (daily circulation 71,000) is owned by the Capital Cities group. At the *Oakland Press* , a stand alone, dedicated microcomputer is used to store and access stories.

None of these papers subscribes to any online databases.

Computer Penetration at Michigan Newspapers

One fourth of Michigan newspapers have no personal computers of any kind. Sixty percent of Michigan newspapers have one or more portable personal computers like the Radio Shack Model 100. Fifty-one percent have an IBM or compatible personal computer. Forty-four percent have a Macintosh computer and 42% have a modem which can be used with a desktop computer. Table 1 shows the penetration of Macintosh and IBM computers. One third of the papers have neither a Mac nor an IBM. Fifteen percent have only Macintoshes. Twenty-three percent have only IBM compatibles. And 29% have both IBM and Macintosh units.

The penetration of computers is related to the number of reporters and editors, daily circulation and the presence of full-time, part-time, or no librarians. Table 2 presents the correlations. The number of editors at a newspaper is correlated more strongly than the number of reporters or circulation size with the number of Macintosh computers available and therefore with the overall availability of desktop PCs. Having more reporters is somewhat more strongly correlated with assessments of the importance of database skills for reporters. The presence of librarians is the worst predictor of availability of personal computers.

Table 3 explores the relationship between the presence of full- or part-time librarians (for newspapers which reported this information) and the penetration of PCs. Newspapers with no librarian were most likely to have either a Macintosh or an IBM-compatible unit (62%). Newspapers with a part-time librarian were the least likely to have any personal computers (54%). And newspapers with full-time librarians were most likely to have both IBMs and Macs (59%). The inhibiting impact of a part-time librarian on adoption of microcomputer technology is striking. Further investigation is needed to determine whether this effect is the result of the part-time individual or of the general attitude of the newspaper that happens to correspond to hiring a part-time librarian.

Table 4 examines PC penetration by circulation size, comparing small (under 30,000), medium sized (30,000-60,000) and large (100,000+) newspapers. The small papers employed an average of six reporters and four editors; the medium sized papers, 23 reporters and 11 editors; and the large papers, 99 reporters and 87 editors. Small papers had an average of one or two portable PCs and about the same number of Macs and IBMs. Medium-sized papers had considerably more portables (9.6) and IBMs (3.5) but fewer Macintoshes. The two large papers had an average of 70 portable units, 36.5 IBM-compatibles and 5.5 Macs. Thus, the relative penetration of Macintoshes is highest in the smaller papers. Small papers were least likely to have modems for their desktop PCs (28%) compared to medium-sized (64%) and large (100%) papers.

The average estimated importance on online database skills for reporters was equivalent between small and medium-sized papers: half-way between not very important and important.

Personal computers were used least often by small papers for all of the functions assessed (in the newsroom, for remote access, for design and layout, for statistical analysis and for business). One of the two large newspapers used Macintoshes for design and layout.

In sum, three fourths of Michigan newspapers have most or all of the equipment needed to access online databases, should they choose to. Currently, they do not choose to.

Newspapers Contributing Content to Online Databases

Table 5 presents a breakdown, by circulation size, of the 50 newspapers identified at the time of this study as contributing content to VU/TEXT, DATATIMES and NEXIS. Participation is not limited to large circulation papers. Twelve newspapers with circulation sizes under 200,000 were identified as contributers. For many of the smaller newspapers, one major benefit of contributing stories is that the online database serves the function of an electronic morgue, eliminating the need to set up an operate their own system. Another

advantage is access to all of the other participating papers' content. The primary disadvantage is the cost of accessing stories, even on their own morgue.

Although the *Washington Post* appears on all three services, and the *Los Angeles Times* on two, there tends to be little overlap. There are five cities in which two newspapers provide content to an online service: Los Angeles, Chicago, Seattle, Philadelphia and Houston. In Los Angeles the *Times* participates in two databases and the *Daily News* in just one; in Philadelphia the *Daily News* and the *Inquirer* both contribute to VU/Text. In the other three cities, competing dailies provide content to competing online services.

Table 6 summarizes publication schedule, group ownership and competing daily characteristics of newspapers participating in online services, by city population size. Seventy percent of the 50 contributing papers are group-owned. Groups owning more than one contributing paper include:

Knight Ridder -- 9 newspapers
McClatchy -- 3 newspapers
Chicago Tribune -- 3 newspapers
Southam -- 3 newspapers
Hearst -- 2 newspapers.

Currently, no Gannett-owned papers were identified as contributing to online databases. However, with the soon-to-be-announced contract for DATATEXT to serve all Gannett papers, this picture will change dramatically.

Overall, 36% of participating newspapers compete with another daily newspaper. Competition is least likely in cities with populations of under 500,000.

Table 7 shows the regional distribution of participating dailies across the United States and Canada. Of note is the absence of participation by newspapers in western states, as well as the dominance by newspapers in north-east coast states.

Discussion

If one looked only at the use of databases by Michigan daily newspapers, one could conclude that online databases have very little impact on or importance to the newspaper industry. If one looked only at the variety of newspapers contributing content to three fast-growing online databases, one could conclude that online databases are the wave of the future for the newspaper industry. The contrast is stark.

Perhaps the problem is Michigan. The *Detroit Free Press* representative responsible for selling VU/TEXT services in the state of Michigan reports that sales are very slow and that companies and individuals are totally unaware of the benefits of and need for online newspaper services. In contrast, she indicates that the Chicago salesperson has no trouble and does not have to begin with a definition of what the service is and why anyone would

want it.

Time will tell, probably quite quickly, whether small and medium sized-newspapers are about to be educated, or whether the optimists who have invested in online database services will find themselves in the same painful position as other new technology optimists like those who invested in videotex.

Table 1

IBM and Macintosh Penetration

	No IBMs	1 or more IBM-compatibles
No Macintoshes	33%	23%
1 or more Macs	15%	29%

(n=48)

Table 2

Correlations between Newspaper Characteristics and PC Penetration

	Reporters	Editors	Circulation	Librarians
Desktop PCs	.83	.92	.86	.25
Macintoshes	.32	.58	.34	-.04
IBM-compatibles	.87	.93	.91	.30
Portables	.93	.96	.93	.44
Modem (yes=high)	.46	.32	.33	.36
Importance of Database Skill	.26	.18	.19	.15

Correlations of .25 or greater are significant at p<=.05.

Table 3

LIBRARIANS AND NEWSPAPER PC PENETRATION

	No PCs	IBM or Mac	IBM+Mac	Total
No Librarian	23%	62%	15%	(13)
Part-Time Librarian	54%	31%	15%	(13)
Full-Time Librarian	6%	35%	59%	(17)
(n)	(11)	(18)	(14)	43
(%)	26%	42%	33%	

Table 4

Circulation Size and PC Penetration
of Michigan Newspapers

	circulation UNDER 30,000 (n=33)	30,000-60,000 (n=14)	OVER 100,000 (n=2)
# reporters	6.0	23.0	99.0
# editors	4.4	11.0	86.5
# portables	1.6	9.6	70.0
# Macintoshes	1.2	0.9	5.5
# IBM-compatibles	1.3	3.5	36.5
# personal computers	4.0	13.8	112.0
modem for desktop (%yes)	28%	64%	100%
online database skill important[1]	1.5	1.4	2.0
use computers:			
in newsroom	38%	50%	100%
for remote entry	47%	79%	100%
for design & layout	25%	43%	50%
for statistical analysis	41%	57%	100%
for business	47%	86%	100%
reasons for not using online databases:			
too expensive	75%	71%	–
no need	47%	57%	–
no expertise	9%	29%	–

[1] (1=not important at all, 2=somewhat important, 3=very important)

Table 5

Newspapers Contributing to Online Databases By City Size

POPULATION	VU/TEXT	DATA TIMES	NEXIS
1-3 million	(7)	(3)	(2)
	Chicago Tribune	Chicago Sun-Times	
	Houston Post	Houston Chronicle	
	Journal of Commerce and Commercial (NYC)	Wall Street Journal	New York Times
	Los Angeles Times		Los Angeles Times
	Los Angeles Daily News		
	Philadelphia Daily News		
	Philadelphia Inquirer		
800,000-1 million	(2)	(2)	
	Arizona Republic (Phoenix)	Dallas Morning News	
	Detroit Free Press	Montreal Gazette	
500,000-800,000	(5)	(4)	(2)
	Seattle Post-Intelligencer	Seattle Times	
	Boston Globe	San Francisco Chronicle	Christian Science Monitor
	Columbus Dispatch	Toronto Star	
	San Jose Mercury-News		
	Washington Post	Washington Post	Washington Post
200,000-500,000	(9)	(6)	
	Akron Beacon-Journal	Minneapolis Star-Tribune	
	Fresno Bee	Baton Rouge State Times	
	Lexington Herald-Leader	Ottawa Citizen	
	Miami Herald	St. Petersberg Times	
	Richmond News-Leader	Orange County Register	
	Sacramento Bee	Daily Oklahoman	
	Witchita Eagle-Beacon		
	Charlotte Observer		
Less Than 200,000	(7)	(5)	
	Albany Times-Union	Arkansas Daily Gazette	
	Annapolis Capital	Windsor Star	
	Allentown Call-Chronicle	Patriot (PA)	
	Fort Lauderdale News	Reading Eagle	
	Gilroy Dispatch (CA)	Bergen Record	
	Orlando Sentinal		
	Cape Post-Tribune		

Table 6

Characteristics of Newspapers Contributing to Online Databases By City Size

Pop.	N	Mean Circ.	%AM	%PM	%AllDay	%Group Owned	%Compet. Dailies	%VU	%DT	%NX
1-3 mill.	11	647,400	73	9	18	82	73	64	27	18
800,000-1 mill.	4	334,700	100	25	--	50	50	50	50	--
500,000-800,000	9	366,200	55	22	22	67	66	56	44	22
200,000-500,000	14	225,500	79	29	14	71	7	57	43	--
less than 200,000	12	108,500	41	75	8	58	8	58	42	--
OVERALL	50	324,300	66	34	14	68	36	58	40	8

1. %AM, %PM and % ALLDAY may add to more than 100%. This is accounted for by the presence of newspapers with both AM and PM editions (see footnote 1, Methods).

2. %VU (Vu/Text), %DT (DataTimes) and %NX (Nexis) may add to more than 100%. This is accounted for by the presence of the Washington Post and the Los Angeles Times, which participate in all more than one online database.

Table 7

REGIONAL DISTRIBUTION OF CONTRIBUTING NEWSPAPERS

END NOTES

1. Laura Kesler and Duncan McDonald, *Uncovering the News: A Journalists's Search for Information* (Belmont, Calif.; Wadsworth Publishing Company, 1986), p. 117.

2. John Ullmann, "Large Newspaper Use of Commercial Data Bases," *IDEAS; Research you can use from the Missouri School of Journalism*, 1:11-20 (1983).

3. Lanny McDonald, "Commercial Database Survey," *Bulletin of the Newspaper Divsion of the Special Libraries Association*, Summer 1984, page 14.

4. Frederick F. Endres, "Daily Newspaper Untilization of Computer Data Bases," *Newspaper Research Journal*, 7:32-33 (1985).

5. John Kerr and Walter E. Niebaurer, "A Base-line Study of the Use of Outside Database, Ful Text Retrieval Systems by Newspaper Editorial Page Writers," Paper presented to the Newspaper Divsion of the Association for Education in Journalism and Mass Communication annual convention, Norman, Okla., August 1986.

6. Six papers were listed with two names in Editor and Publisher Yearbook, 1985, with the same owners, management and basic information. In this study, those papers are identified only by the first paper name listed. The *Albany Times-Union* represents the Editor and Publisher listing for *Albany Times-Union* (an AM paper) and the *Knickerbocker News* (PM paper); the *Arizona Republic* also represents the *Phoenix Gazette*; the *Richmond News-Leader* also represents the *Richmond Times-Dispatch*; the *Reading Eagle* represents the *Reading Times*; the *Patriot* (Pennsylvania) represents the *Evening News* and the *St. Petersburg Times* represents the *Evening Independent*.